

Exhibit A

U.S. Patent No. 7,598,365



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(12) **United States Patent**
D'Halluin et al.(10) **Patent No.:** **US 7,598,365 B2**
(45) **Date of Patent:** **Oct. 6, 2009**(54) **TARGETED DNA INSERTION IN PLANTS**

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U.S.C. 154(b) by 232 days.(21) Appl. No.: **10/580,076**(22) PCT Filed: **Nov. 17, 2004**(86) PCT No.: **PCT/EP2004/013122**§ 371 (c)(1),
(2), (4) Date: **May 18, 2006**(87) PCT Pub. No.: **WO2005/049842**PCT Pub. Date: **Jun. 2, 2005**(65) **Prior Publication Data**

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A01H 5/00 (2006.01)(52) **U.S. Cl.** **536/23.2; 536/23.4; 800/278;**
800/320.1; 435/468; 435/419; 530/350(58) **Field of Classification Search** None
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**5,474,896 A * 12/1995 Dujon et al. 435/6
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(74) *Attorney, Agent, or Firm*—Hunton & Williams LLP(57) **ABSTRACT**Methods and means are provided to improve targeted DNA
insertion in plants using rare-cleaving "double stranded
break" inducing enzymes. Also provided are improved I-SceI
encoding nucleotide sequences.**20 Claims, 1 Drawing Sheet**